

WHAT IS CLAIMED IS:

1. A transfer sheet comprising a resin film having a glass transition temperature of not lower than 60°C, a silicone resin layer formed on the resin film, and a metal wiring pattern formed on the silicone resin layer,  
wherein the metal wiring pattern has an exposed face that is roughened, and the roughened face has a ten-point average surface roughness (Rz) of at least 2  $\mu\text{m}$ , and  
a face of the metal wiring in contact with the silicone resin layer has a surface roughness (Rz) lower than the surface roughness (Rz) of the exposed face.
2. The transfer sheet according to claim 1, wherein the metal wiring pattern is made of a copper foil.
3. The transfer sheet according to claim 1, wherein the resin film comprises polyethylene terephthalate.
4. The transfer sheet according to claim 1, wherein the surface roughness (Rz) of the roughened face is in the range from 3  $\mu\text{m}$  to 8  $\mu\text{m}$ .
5. The transfer sheet according to claim 1, wherein the surface roughness (Rz) of the face in contact with the silicone resin layer is in the range from 0.5  $\mu\text{m}$  to 1.5  $\mu\text{m}$ .
6. The transfer sheet according to claim 1, wherein the surface of the wiring pattern is provided with a silane-coupling agent.
7. The transfer sheet according to claim 1, wherein at least one of the surface and the back face of the wiring pattern is plated with Zn.
8. The transfer sheet according to claim 1, further comprising a primer layer interposed between the resin film and the silicone resin layer.
9. The transfer sheet according to claim 1, wherein the metal wiring has a thickness in the range from 9  $\mu\text{m}$  to 35  $\mu\text{m}$ .
10. A circuit board having an electrical insulating substrate sheet in which a

hole is formed in the thickness direction and filled with a conductor, and a metal wiring pattern electrically connected with the conductor is transferred and integrated onto at least one face selected from the surface and the back face of the sheet, wherein,

the metal wiring pattern forms a roughened face at the interface in contact with a resin, and the roughened face having a ten-point average surface roughness (Rz) of at least 2  $\mu\text{m}$ , and

the surface roughness (Rz) of a non-embedded face of the metal wiring pattern is lower than the surface roughness (Rz) of the embedded face of the metal wiring pattern.

11. The circuit board according to claim 10, wherein the metal wiring pattern is made of a copper foil.

12. The circuit board according to claim 10, wherein the surface roughness (Rz) of the roughened face is in the range from 3  $\mu\text{m}$  to 8  $\mu\text{m}$ .

13. The circuit board according to claim 10, wherein the surface roughness (Rz) of the non-embedded face of the metal wiring pattern is in the range from 0.5  $\mu\text{m}$  to 1.5  $\mu\text{m}$ .

14. The circuit board according to claim 10, wherein the surface of the wiring pattern is provided with a silane-coupling agent.

15. The circuit board according to claim 10, wherein at least one of the surface and the back face of the wiring pattern is plated with Zn.

16. The circuit board according to claim 10, wherein the metal wiring has a thickness in the range from 9  $\mu\text{m}$  to 35  $\mu\text{m}$ .

17. A method of manufacturing a wiring board, comprising:

superposing, on an electrical insulating substrate sheet, a transfer sheet comprising a resin film having a glass transition temperature of not lower than 60°C, a silicone resin layer formed on the resin film, and a metal wiring pattern formed on the silicone resin layer, an exposed face of the metal wiring pattern forms a roughened face, and the roughened face has a ten-point average surface roughness (Rz) of at least 2  $\mu\text{m}$ , while a face of the metal wiring pattern in contact with the

silicone resin layer has a surface roughness (Rz) lower than the surface roughness of the exposed face;

applying pressure while heating to a temperature to allow the wiring pattern to be embedded in the insulating substrate sheet so as to embed at least one part of the wiring pattern in the insulating substrate sheet; and

peeling the resin film so as to obtain a wiring board with the embedded wiring pattern.

18. The method according to claim 17, wherein the insulating substrate sheet has a viahole filled with a conductive paste, and the insulating substrate sheet is superposed so that the wiring pattern of the transfer sheet is connected to the conductive paste of the insulating substrate sheet.

19. The method according to claim 17, wherein the insulating substrate sheet is prepared by filling the viaholes with the conductive paste,

the transfer sheet is superposed onto the insulating substrate sheet so that the wiring pattern is connected to the conductive paste, and the sheets are laminated by applying heat at temperature lower than a cure reaction peak temperature of the conductive paste, thereby embedding the wiring pattern in the insulating substrate sheet, and

the resin film is peeled to obtain an insulating substrate sheet with the embedded wiring pattern.

20. The method according to claim 17, further comprising laminating a plurality of insulating substrate sheets obtained by the method according to claim 17 in a batch, and curing the sheets.

21. The method according to claim 17, wherein the transfer sheet is prepared by forming a primer layer on a resin film as a supporter, and subsequently forming the silicone resin layer on the primer layer.

22. The method according to claim 17, wherein the wiring pattern is formed by etching a copper foil.